Union Electric
Callaway Plant

PO Box 620
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October 25, 2001

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Washington, DC 20555-0001

Gentlemen:

ULNRC-4544
TAC No. MB1205

DOCKET NUMBER 50-403
UNION ELECTRIC COMPANY
CALLAWAY PLANT
RELIEF REQUEST FOR APPLICATION OF AN ALTERNATE TO THE ASME BOILER AND PRESSURE VESSEL CODE SECTION XI EXAMINATION REQUIREMENTS FOR CLASS 1 AND 2 PIPING WELDS

References: 1) ULNRC-4392 dated February 16, 2001
2) NRC letter to Garry L. Randolph from J. Donohew, USNRC, dated October 3, 2001

Reference 1 submitted a request for relief from the American Society of Mechanical Engineers (ASME) Section XI code examination requirements for inservice inspection of Class 1 and 2 piping welds. The proposed alternative of a risk-informed inservice inspection (R1-1S1) program is to provide an acceptable level of quality and safety pursuant to 10 CFR 50.55 a (a)(3)(i). Reference 2 provided a request for additional information for the staff to complete its review of the request for relief. Attachment 1 to this letter provides the requested information. Attachment II contains regulatory commitments made in this submittal.

If you have any questions concerning this matter, please contact me at (573) 676-8190, or Mr. Dave Shafer at (314) 554-3104.

Sincerely,

J. D. Blosser
Manager, Regulatory Affairs

DES/akw

Attachments

A047

STATE OF MISSOURI)
) SS
CALLAWAY COUNTY)

John D. Blosser, of lawful age, being first duly sworn upon oath says that he is Manager Regulatory Affairs, for Union Electric Company; that he has read the foregoing document and knows the content thereof; that he has executed the same for and on behalf of said company with full power and authority to do so; and that the facts therein stated are true and correct to the best of his knowledge, information and belief.

By Blosser
John D. Blosser
Manager Regulatory Affairs

SUBSCRIBED and sworn to before me this 25th day of October, 2001.

Gloria J Taylor

GLORIA J. TAYLOR
NOTARY PUBLIC
STATE OF MISSOURI - CALLAWAY COUNTY
NOTARY SEAL
MY COMMISSION EXPIRES JUNE 21, 2003

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RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Provided below are Callaway Plant's response to the NRC's Request for Additional Information (RAI) regarding Callaway Plant's Risk-Informed Inservice Inspection (RI-ISI) Submittal. The RAI was dated 25 September 2001. These responses have been developed with the STARS Utility Group involvement.

QUESTION 1:

Will the RI-ISI program be updated every 10 years and submitted to the NRC consistent with the current ASME XI requirements?

RESPONSE:

The ISI program will be updated and submitted to the NRC consistent with regulatory requirements in effect at the time such update is required (currently every 10 years). This may again take the form of a relief request to implement an updated RI-ISI program depending on future regulatory requirements.

QUESTION 2:

Under what conditions will the RI-ISI program be resubmitted to the NRC before the end of any 10-year interval?

RESPONSE:

The RI-ISI program will be resubmitted to the NRC prior to the end of any 10-year interval if there is some deviation from the RI-ISI methodology described in the initial submittal or if industry experience determines that there is a need for significant revision to the program as described in the original submittal for that interval. Callaway Plant will initiate tracking documents to ensure that the RI-ISI program is monitored and periodically reviewed for risk ranking in accordance with the commitments made in Section 4 of the initial submittal. Revisions made as a result of these reviews will be considered for submittal as outlined above.

QUESTION 3:

Page 8 of your submittal presents the criteria for engineering evaluation and additional examinations if unacceptable flaws or relevant conditions are found during examinations. The submittal states that the evaluation will include whether other elements in the segment or segments are subject to the same root cause conditions. The submittal further states that additional examinations will be performed on these

elements up to a number equivalent to the number of elements required to be inspected on the segment or segments initially. Please address the following:

(1) Please clarify the term "initially". Specifically, does it refer to inspections planned for the current outage or the current interval?

(2) Please clarify how will the elements be selected for additional examinations. Specifically, please verify that the elements will be selected based on the root cause or damage mechanism and include high risk significant as well as medium risk significant elements (if needed) to reach the required number of additional elements.

RESPONSE:

a. In this application, the term "initially" refers to those examinations originally scheduled for the current refueling outage.

b. Elements selected for additional examinations will be selected based on the root cause or damage mechanism and will include high risk significant as well as medium risk significant elements (if needed) to reach the required number of additional elements.

QUESTION 4:

Page 4 of your submittal states that a deviation to EPRI RI-ISI methodology has been implemented in the failure potential assessment for thermal stratification, cycling and striping (TASCS). Please state if your revised methodology for assessing TASCS potential is in conformance with the updated criteria described in EPRI letter to NRC dated March 28, 2001. Also, please confirm that as stated in the subject letter, once the final MRP guidance has been developed, the RI-ISI program will be updated for the evaluation of susceptibility to TASCS, as appropriate.

RESPONSE:

The methodology for assessing TASCS potential used in the Callaway Plant RI-ISI submittal is identical to the methodology described in Electric Power Research Institute (EPRI) letter to NRC dated March 28, 2001. Callaway Plant will update the RI-ISI program based on the final EPRI material reliability program guidance as warranted.

QUESTION 5:

Page 13 of your submittal states that Callaway is in the second period of the second interval. The submittal further states that 37.7% of the ASME XI examinations have been completed thus far, and therefore 62.3% of the RI-ISI examinations will be performed during the remaining interval so that 100% of the selected examinations are performed during the course of the interval. Please specify which 62.3% of the RI-ISI examinations will be performed and what will be the basis of the selection.

RESPONSE:

Callaway Plant is currently in the middle of the second period of its second inspection interval. At this point, 37.7% of the existing ISI program examinations have been completed. Although only 62.3% of the existing ISI program examinations remain to be performed, Callaway Plant will perform 67% of the RI-ISI examinations during the remainder of the second interval. The examination locations selected by RI-ISI were predicated on contribution to risk and partitioned to appropriately address the various risk categories. Preference was given to high-risk welds and previously unexamined welds for selection in the remainder of this interval.

QUESTION 6:

Appendix A of the SER (Technical Evaluation Report, Front End Analysis) of the staff evaluation report (SER), issued by letter dated September 14, 1999, for the Callaway Individual Plant Evaluation (IPE), notes that the licensee implemented several plant enhancements that were not credited in the IPE. These enhancements include: procedural and hardware changes to allow feed of depressurized steam generators from diesel-driven fire pump, addition of procedural guidance to re-establish normal service water if essential service water fails, addition of procedural guidance to verify residual heat removal (RHR) pump room cooling at switchover to emergency core cooling system (ECCS) recirculation phase, and replacement of the positive displacement charging pump (PDP) with a third centrifugal charging pump (CCP). Were these or other enhancements credited in the 1999 Probablistic Risk Assessment (PRA) used to support the RI-ISI submittal? Appendix A of the SER also notes that an enhancement to provide a switch to bypass feedwater isolation in order to restore main feedwater was scheduled for Fall 1996. Was this modification performed and was it credited in the 1999 PRA?

RESPONSE:

Items a. through e. below address the plant enhancements identified by the NRC in Question 6. Note that the five items were addressed in letter ULNRC-03271 dated September 28, 1995. That letter was prepared in response to an NRC Request for Additional Information (RAI) letter. The RAI letter, from L. R. Wharton to D. F. Schnell dated July 18, 1995, requested additional information on the Callaway Individual Plant Examination (IPE). The responses provided below were extracted from the above cited ULNRC letter and annotated with the current status of each item.

a. As stated in Section 6.2.1 of the Callaway IPE Report, Emergency Operating Procedure FR-H.1, "Response to Loss of Secondary Heat Sink," now contains a step to feed a steam generator with fire water in scenarios in which the auxiliary feedwater, main feedwater, and condensate systems are unavailable. No credit was taken for this capability in the Callaway IPE, nor was this capability credited in subsequent PRA model revisions.

b. Guidance to restore normal service water should essential service water fail has been added to appropriate procedures. No credit was taken for this additional procedural guidance in the Callaway IPE or in subsequent PRA model revisions. However, the PRA model (including the IPE) has always included the possibility that the operators would restore normal service water if essential service water fails.

c. A step was added to the procedure for transfer to ECCS cold leg recirculation for the operators to ensure that the RHR pump room coolers are running at the time of transfer. If the coolers are not running, the operators are directed to locally start the room coolers. No credit was taken for this capability in the Callaway IPE, nor was this capability credited in subsequent PRA model revisions.

d. The positive displacement pump (PDP) was replaced with a third centrifugal charging pump, the normal charging pump (NCP). The NCP does not require component cooling water as did the PDP. The NCP is powered from non-safety 4160-Vac power rather than an independent, back-up AC power supply. Credit has been taken, where appropriate, for operation of the NCP to provide reactor coolant pump seal injection.

e. The Callaway Plant was modified to incorporate a switch to bypass feedwater isolation in order to restore main feedwater. This design change was associated with the replacement of the Main Steam and Feedwater Isolation System cabinets with digital circuitry. No credit was taken for this capability in the Callaway IPE, nor was this capability credited in subsequent PRA model revisions.

LIST OF COMMITMENTS

The following table identifies those actions committed to by Callaway Plant in this document. Any other statements in this submittal are provided for information purposes and are not considered to be commitments. Please direct questions regarding these commitments to Mr. John Blosser, Manager Regulatory Affairs,(573) 676-8190.

COMMITMENT	Due Date/Event
The RI-ISI program will be resubmitted to the NRC prior to the end of any 10-year interval if there is some deviation from the RI-ISI methodology described in the initial submittal or if industry experience determines that there is a need for significant revision to the program as described in the original submittal for that interval. Callaway Plant will initiate tracking documents to ensure that the RI-ISI program is monitored and periodically reviewed for risk ranking in accordance with the commitments made in Section 4 of the initial submittal. Revisions made as a result of these reviews will be considered for submittal as outlined above.	Concurrent with the implementation of the approved relief request.
The methodology for assessing TASCS potential used in the Callaway Plant RI-ISI submittal is identical to the methodology described in Electric Power Research Institute (EPRI) letter to NRC dated March 28, 2001. Callaway Plant will update the RI-ISI program based on the final EPRI material reliability program guidance as warranted.	Upon issuance and review of the final EPRI material reliability program.
At this point, 37.7% of the existing ISI program examinations have been completed. Although only 62.3% of the existing ISI program examinations remain to be performed, Callaway Plant will perform 67% of the RI-ISI examinations during the remainder of the second interval. The examination locations selected by RI-ISI were predicated on contribution to risk and partitioned to appropriately address the various risk categories. Preference was given to high-risk welds and previously unexamined welds for selection in the remainder of this interval.	Completion of second interval